STANDARD FORM NO. 64 ~~SECRET~~ CONFIDENTIAL

Office Memorandum • UNITED STATES GOVERNMENT

TO : Chief, Engineering Division/OC DATE: SE

FROM : Acting Chief, Termination and Settlement Branch

SUBJECT: Contract No. RD-91-SA [redacted] 25X1

1. Enclosed is an Invention Disclosure on a CW Signal Detector, submitted by the Contractor in connection with its final report under this Contract.

2. Inasmuch as the Contractor indicates that it will not file a patent application on the invention, we should like to know whether you consider the device of sufficient importance to warrant the Agency in obtaining an assignment of the invention and seeking patent protection in its own behalf.

[redacted] 25X1

Enclosures:
1. Letter (1 copy)
2. Certificate of Compliance (1 copy)
3. Invention Disclosure No. 16-314 (1 copy)

Distribution:
Orig. - Addressee
1 - RD-91-SA (Official)
1 - Chrono
1 - Admin
1 - T&SB

OL/PD/T&SB: [redacted] (16 September 1957) 25X1

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CONFIDENTIAL

GL-50-81 25X1

[redacted] 25X1

[redacted]

August 6, 1957 25X1

[redacted]

Subject: Reporting of Royalties and Inventions on Contract No. RD-91-SA, [redacted] No. H-2061 25X1

Enclosure: (1) Royalty Report DD Form 783 (4 copies)
(2) Certificate of Compliance (4 copies)
(3) One (1) copy of Invention Disclosure No. 16-314

Gentlemen:

Enclosed as required are completed copies of the Royalty Report, Certificate of Compliance, and Invention Disclosure on the subject contract. If further information is desired, feel free to contact us at your convenience.

Very truly yours,

[redacted] 25X1

Contract Coordinator

EJR/vlp

[redacted] 25X1

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CERTIFICATE OF COMPLIANCE WITH CONTRACT PATENT PROVISIONS

R 5-91

CONTRACT NO. ~~RD-91-8A - H-2061~~

DATE ~~ugust 6, 1957~~ CONTRACTOR [redacted] 25X1

The undersigned contractor hereby certifies that a complete written disclosure of any and all inventions made under contract No. ~~RD-91-8A - H-2061~~, has been delivered to the Contracting Officer or his designee as required by the terms of the contract and that all records, including notebooks and reports, maintained or prepared in the performance thereof have been examined for any inventions that should be reported.

The appended schedule forming a part of this certificate identifies by the inventor, title and date of submission, all invention disclosures, if any, that have been submitted or are being submitted herewith in compliance with the terms of the above contract. Other than those inventions reported in the disclosures listed in the appended schedule, there are no inventions to report.

[redacted] 25X1

APPROVED: _____
Contracting Officer

SCHEDULE OF INVENTION DISCLOSURES

ILCO DOCKET NO.	INVENTOR	TITLE OF INVENTION	DATE OF SUBMISSION	DOES CONTRACTOR ELECT TO FILE PATENT APPLICATION? YES	NO
16-314	[redacted]	CW SIGNAL DETECTOR	8-2-57		X 25X1

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H-2061

16-314
Received 7/2/56

INVENTION DISCLOSURE

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Title: CW Signal Detector

Purpose: To increase sensitivity to CW signals of existing crystal video receivers.

....Closest previously known approach....and advantages:
Many devices have been used for this purpose such as mechanical choppers, impedance balance circuits and A.C. crystal bias. Present method incorporates existing equipment and creates much greater sensitivity.

Description and sketch:

This process utilizes the output of an impulse generator, originally supplied for calibration of the system. The output of this generator is a .002 microsecond pulse, with a frequency spectrum, from 1 KMC to 40 KMC, a repetition rate of approximately 400 cps.

The output signal is fed through a R-F filter which possesses the same bandwidth as the receiving antenna. The filtered signal is probe injected into the antenna horn or fed into the cable connecting the crystal detector to the antenna depending on the characteristics of the antenna (dipole, helix or waveguide) in use.

The impulse level is set below that of minimum detectable signal. Thus in the absence of C-W signal the output of the video amplifier is that of normal crystal video operation.

The presence of a CW signal will cause the impulse frequencies to be mixed with the CW frequency at the crystal. This band of frequencies is accepted by the receiver and a pulse is produced which is dependent upon the amplitude of CW signal and the video bandwidth of the crystal video receiver in use.

This signal is amplified by the video amplifier followed by an audio amplifier. The resulting output signal is a 400 cycle tone.

This system cannot have greater sensitivity than that of the crystal operated as a video detector. However, this method is superior to any chopping device or balance circuits now in use and will operate as a video detector for CW and FM signals as well as for AM signals.

Witnessed & Understood by:

[redacted] 6/25/56
[redacted] 6/26/56

25X1

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Built 6/8/56: Tested 6/8/56: Recorded in Notebook No. 8009, page 64.

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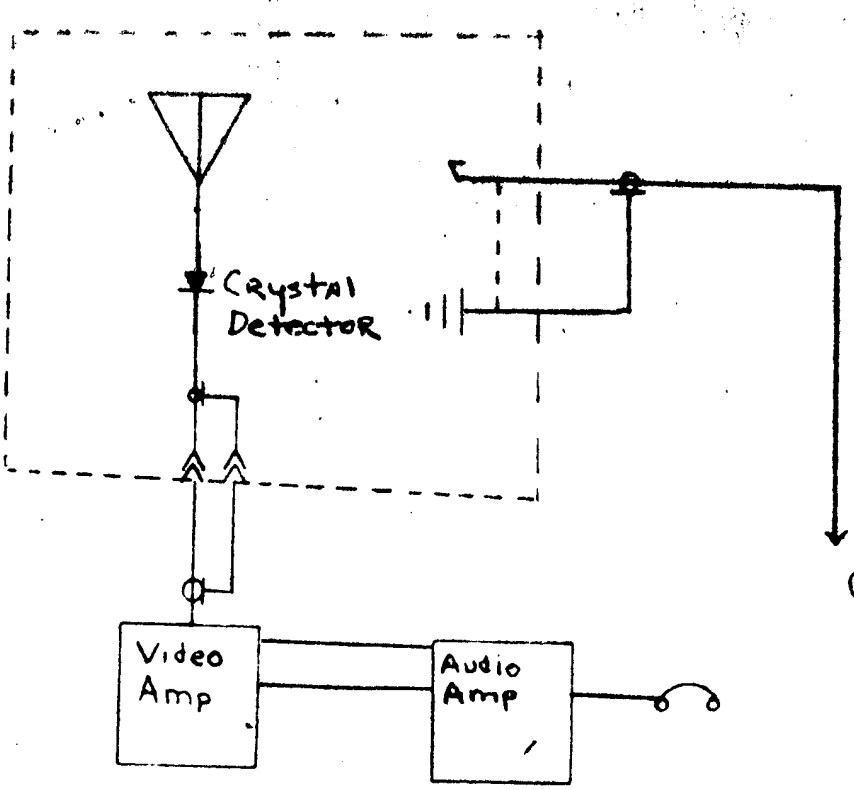
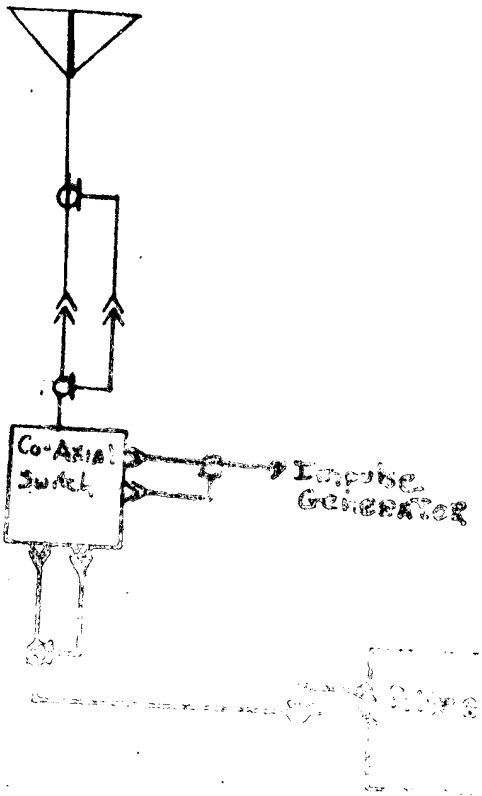


CW Signal Detector for Horn Type Antenna

CW Signal Detector for Helix or Dipole Antenna



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